

OCCIDENTAL CHEMICAL CORPORATION --ENFORCEMENT CONFIDENTIAL
FACILITY MANAGEMENT PLAN (FMP)

WA 2314
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Facility Name: Occidental (Tacoma, WA)
ID#: WAD009242314
Environmental ranking: 25 (high)

Contacts: Catherine Massimino (EPA-Permits)
Robert Farrell (Hydrogeologist, PRC)
Alan Rainey (Ecology)
Al McGregor (OCC-Corporate)
Lyle Feller (OCC-Tacoma)
Karen Keeley (EPA-Superfund)

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Environmental Goals: Draw-back and contain off-site groundwater plume on-site and clean-up groundwater plume. Complete RFI for off-site plume. Accelerate clean-up schedule to be responsive to plume movement.

Site Description

GENERAL BACKGROUND

The Occidental Chemical Corporation Facility (OCC) consists of 33 acres located in the industrial port area of Tacoma, Washington. The eastern boundary of the facility lies on the waterfront of the Hylebos Waterway. The majority of the port area is manmade fill constructed on the lowlands of Commencement Bay.

OCC's facility is an inorganic chemical production plant. Using salt (sodium chloride), water, and electricity as the principal raw materials, OCC's Tacoma plant currently produces seven major industrial and commercial quality inorganic chemical products. These products include liquefied chlorine, caustic soda, bleach, ammonia, ammonium hydroxide, muriatic acid, and calcium chloride.

Hazardous wastes are generated as by-products of the manufacturing operations. OCC manages only its Tacoma facility waste on-site.

PERMIT-GENERAL

At permit issuance (October, 1988) OCC managed hazardous waste in two processes, container storage and indoor waste pile. The permit approved four container storage areas managing EPA hazardous waste codes K073, D002, and D008, and one indoor waste pile managing EPA hazardous waste code D008. Since permit issuance, OCC has certified or is in process of certifying closure of all these units.

USEPA RCRA



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Site Description(cont.)

PAST PRACTICE-BACKGROUND*

During the latter half of 1979 and 1980, OCC investigated groundwater and soils throughout its Tacoma facility to evaluate the potential for contamination from its solvent plant and chlorine caustic plant. This investigation revealed that the soils and groundwater beneath the site was contaminated with solvents. OCC removed some contaminated soils and covered some contaminated areas to minimize the potential for future contamination. The permit processing activities at OCC focused on gaining an understanding of the groundwater movement under the site (aquifer characterization) and the extent of contamination (plume delineation).

Past practice units on-site included landfills, surface impoundments, waste piles and storage units. Pursuant to HSWA, EPA made a determination that there had been releases of hazardous wastes and hazardous constituents from previous solid waste management units at the OCC facility which could present a potential threat or harm to human health or the environment. The major contaminants identified to be present include methylene chloride, chloroform, tetrachloroethylene, and trichloroethylene. Due to the numerous past waste management areas on-site, similarity of the constituents involved, and the extent of the groundwater plume, a facility wide versus unit specific RFI was deemed necessary to adequately define the extent and nature of the plume for development of a corrective action program.

Groundwater from the OCC facility discharges to the Hylebos Waterway and is believed to flow to some extent to the Blair Waterway. Both these waterways discharge to Commencement Bay, which is heavily contaminated with organics and has been classified a National Priority List (NPL) Superfund site.

***Additional specifics on past practices and environmental setting at the OCC site can be found in RFA (2/26/88)**

OCCIDENTAL CHEMICAL CORPORATION --ENFORCEMENT CONFIDENTIAL
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Site Description(cont.)

PERMIT-CORRECTIVE ACTION

The permit includes a schedule for performance of the following activities:

- o OCC to complete RFI activities on-site and off-site (including RFI-I which addresses groundwater plume on-site and off-site, groundwater seeps into Hylebos waterway, surfacewater run-off from the site, and RFI-II, which addresses sediments in the Hylebos waterway.
- o The design, construction, and operation of a groundwater pump and treat program for the on-site and off-site plume.
 - To permit specified clean-up levels
 - Using one of three treatment technologies specified in the permit:
 - steam stripping
 - air stripping followed by vapor phase carbon absorption
 - water phase carbon absorption
- o Precorrective action monitoring while RFI and CA implementation activities are on-going to track plume movement. Requirement to accelerate overall schedule if significant plume movement is determined to have occurred.

OCCIDENTAL CHEMICAL CORPORATION --ENFORCEMENT CONFIDENTIAL
FACILITY MANAGEMENT PLAN (FMP) (CONT.)

Site's Status

Major Milestones Since Permit Issuance

RFI-I

- o Completed RFI, as originally required in permit, approved by Agencies July, 1989.
- o Completed RFI, first supplement, groundwater plume horizontal extent greater than originally anticipated, April 1990.
- o Commenced RFI, second supplement, groundwater plume vertical extent greater than originally anticipated (received approval from Port of Tacoma to place additional off-site wells end of May 1992, approval originally requested in June 1990. Port approval also included one off-site extraction well to be used in a long-term pump test).
- o Pump tests conducted and report of results, along with a conceptual plan for the groundwater extraction system was approved by the Agencies after numerous revisions in April 1991. Pump test results to be utilized to design groundwater extraction system and to size the groundwater treatment system. OCC requested approval from state to discharge pump test water through NPDES permitted outfall in October 1989 (this request also included request to modify NPDES outfall permit for full scale groundwater extraction system) and from the POTW in December 1989. Approval from POTW received in April 1990. Pump test performed in June 1990 and report issued in August 1990. Pump test of insufficient extent (volume and duration) to adequately support proposed pumping rate). NPDES Discharge permit writer assigned in March 1992.

OCCIDENTAL CHEMICAL CORPORATION --ENFORCEMENT CONFIDENTIAL
FACILITY MANAGEMENT PLAN (FMP) (CONT.)

Site Status (cont.)

CAP

- o OCC's re-evaluation of treatment systems required in permit to more effectively address vinyl chloride contamination in groundwater. Copies of additional evaluations being performed provided in February, April, June, and September 1991. Proposal to add processes to treatment train, including thermal or catalytic oxidation, and pretreatment to address high levels of silicates.
- o Draft Corrective Action Plan and Corrective Action Monitoring Plan submitted in February 1992, revised April 1992, and revised May 1992. Plan includes provision for expansion of groundwater extraction and treatment system from 150 gpm to 550 gpm. Agencies have conservatively determined that 550 gpm is needed while OCC believes the 150 gpm would be adequate. The Plan includes additional aquifer pump testing and extraction system startup testing which will help overtime to determine the actual rate needed to meet the permit performance standards for containment and clean-up.
- o Notice of Agencies by OCC of significant plume movement, May 1992, and request in June 1992 for extension to propose acceleration of implementation of CAP.

OCCIDENTAL CHEMICAL CORPORATION --ENFORCEMENT CONFIDENTIAL
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Site Status (cont.)

- RFI-II**
- o Completed RFI-II, approved April 19, 1991, contingent on submittal technical review of analytical methods and detection limits for meeting Superfund clean-up standards for Hylebos Waterway.
 - o Submittal of technical review of analytical methods and detection limits (June 1991), and proposal for additional sediment sampling and analysis to prove method revisions will meet Superfund clean-up standards April 1992.

Future Major Milestones in 1992

CAP

- o Approval by Agencies of Corrective Action Plan and Correction Action Monitoring Plan in summer 1992, triggering requirement for OCC's submittal of final groundwater treatment design plan within 60 days.
- o OCC submittal of revised CAP schedule and Agency approval/revision in summer 1992.
- o OCC obtain approval from Port for access to install off-site groundwater extraction wells in summer 1992.
- o OCC obtain all permits needed to construct groundwater extraction and treatment system by late 1992 to early 1993.
- o Complete RFI, second supplement, revise extraction system as necessary to address plume's vertical extent.

RFI-II

- o Agency approval/revision of proposal for additional sediment sampling and analysis to prove method revisions will meet Superfund clean-up standards of April 1992 in summer 1992.
- o OCC collect additional sediment samples, analyze, and submit report by end of 1992.

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FACILITY MANAGMENT PLAN (FMP) (CONT.)

Site Status (cont.)

Future Major Milestone in 1993

- o Construct and commence operation of groundwater extraction and treatment system by end of 1993.